

The duration and intensity of the disturbances were noted. The data were tabulated to give (a) observations with complete simultaneity without adjustment, and (b) observations where one time unit allowance is allowed for the adjustment of the personal error. The place of origin of individual atmospheric disturbances was recorded and a "disturbance index" given, i. e., the relative number of atmospheric disturbances per unit time referred to 100 for the most disturbed evening. The weather in the region of the atmospheric "fixes" was found from weather charts. In some cases atmospheric disturbances were traced as originating at clearly defined cold fronts or regions of thunderstorm activity. It was concluded that (1) the effective range of reception of very many atmospheric disturbances heard on normal broadcast receivers exceeds 3,000 km. and reaches at least 7,000 km.; (2) atmospheric disturbances of range below 200 km. are not shown by any evidence; and (3) cold fronts are of great importance in the origination of atmospheric disturbances. In the Discussion, A. G. Lee described experiments showing that atmospheric disturbances which disturb long-distance commercial reception are not of short-distance origin, seeing that the distribution in azimuth is not uniform. J. A. Slee considered that for seagoing conditions most of the atmospheric disturbances heard were not of very long range. G. C. Simpson suggested the upper air as a source of atmospheric disturbances. R. Bureau supplied observations and diagrams to illustrate his view that atmospheric disturbances are a local consequence of instability. T. L. Eckersley suggested that some of the differences between the committee's results and those of Bureau might be due to differences of wave-length. The Committee replied to the discussion.—R. S. R.

Arctic Ice in 1927: The *Annual Report* by the Danish Meteorological Office on the state of the ice in Arctic Seas in 1927, has recently been published. In the Barents Sea the most noteworthy features were the con-

gestion of ice off the entrance to White Sea from March until May, and the open sea up to Fraz Josef Land in September. The west coast of Novaya Zemlya was clear in July, and the Kara Sea was almost clear in August and quite clear in September. Around Spitzbergen there was much less ice than usual, except in October and November, when a broad belt of pack lay off the west coast. Bear Island, however, was not clear of ice from the autumn of 1926 until the end of May. On the east coast of Greenland the belt of ice seems, on the whole, to have been wider than usual, but the coasts of Iceland were free throughout the year. In Davis Strait there was less ice than usual, and on the Newfoundland Banks the ice season was short and had ended entirely by August. In Baffin Bay and the channels of the Canadian Arctic Archipelago, ice was scarcer than in most years. Davis Strait was almost clear in July, but Wrangel Island was not approachable until August. The report is furnished with the usual ice distribution charts for the spring and summer months. [Reprinted from *Nature*, London, April 14, 1928.]

March weather in the United States 50 years ago.—The weather of March, 1878, was noteworthy in at least two respects; first, atmospheric pressure was exceptionally low and temperature unusually high in the Missouri Valley and, second, the month, as a whole, was one of the warmest of that name ever experienced. A Missouri River steamboat passed Leavenworth, Kans., bound for Montana, on the 27th of March, arrived at Lower Brule Agency in the present State of South Dakota, on April 1, Fort Lincoln on the 9th, and Bismarck, N. Dak., on the 9th. Leaving that point on the 12th the steamer arrived at Fort Benton—the headwaters of navigation on the Missouri—on April 30, thus making the earliest trip ever accomplished, due to the open condition of the river and the freedom from ice.—A. J. H.

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

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On the influence of solar activity on radio transmission. p. 166-173. figs. 23 cm. (Repr.: Proc. Inst. radio engin., Feb., 1928.)
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- Burton, C. O.
Recording wind velocity. Indianapolis. [1928.] v. p. illus. plates. 31 cm. [In part typewritten and manifolded.]
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Memoria de los trabajos efectuados con motivo del ultimo ciclón que azotó la isla el 20 de Octubre de 1926. n. p. 1927. xi, 154 p. plates (part fold.). 26½ cm.
- Great Britain. Meteorological office.
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- Hamburg. Deutsche Seewarte.
Meteorologie aus dem Gebiete der See- und Küstenluftfahrt. Berlin. n. d. Heft 1. (Aufsätze und Mittell. aus den "Annalen der Hydrog. und marit. Met., 1927. II. Halbj.)
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- Rouch, J.
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- Shaw, William Napier.
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